

## **REMARKS**

This application has been reviewed in light of the non-final Office Action dated September 12, 2007. Claims 1-4, 6-13, 15, 17-22, and 25 are now pending, with Claims 1, 18, 19, 21, and 25 in independent form. Applicants gratefully acknowledge the allowance of Claims 18 and 21. Independent Claims 1 and 19 have been amended, and independent Claim 25 has been added to include a verbal description of aspects of the equations included in allowed Claims 18 and 21, which are believed not to be present in the cited rejecting references. In particular, Claims 1 and 19 have been amended to recite that the recited "error measure" ... "includes two radial functions, each of the two radial functions corresponding to a different source digital image". An example of such an error measure is provided by the equation for  $g(f)$  in allowed Claims 18 and 21, and page 8, line 20 of the specification, where the first  $f^1$  square root term involving  $u_i$  and  $v_i$  is a radial function corresponding to one source digital image (see page 7, lines 14-16 of the specification) and the second  $f^1$  square root term involving  $x_i$  and  $y_i$  is a radial function corresponding to another source digital image (see page 7, lines 16-18 of the specification). Newly added independent Claim 25 also includes this feature. Claims 1, 18, 19, and 21 also have been amended as to matters of form to make more clear that the recited focal length is --a focal length used in a capture of the source digital images--, as opposed to a "focal length of the source digital images", as previously recited. Support for these amendments can be found in the specification at least at page 7, lines 18-19. Claims 23 and 24 have been cancelled without prejudice or disclaimer of the subject matter presented therein. Favorable reconsideration is respectfully requested.

Claims 1-3, 6, 7, 13, 15, 17, 19-20, and 22 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 6,097,854 (Szeliski et al.) in view of U.S. Patent No. 5,461,440 (Toyoda et al.). Claims 4 and 8-10 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 6,097,854 (Szeliski et al.) in view of U.S. Patent No. 5,461,440 (Toyoda et al.), and "Reference Input/Output Medium Metric RGB Color Encodings". Claim 11 stands rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 6,097,854 (Szeliski et al.) in view of U.S. Patent No. 5,461,440 (Toyoda et al.), and further in view of U.S. Patent No. 5,083,209 (Inoue et al.).

Claim 12 stands is rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 6,097,854 (Szeliski et al.) in view of U.S. Patent No. 5,461,440 (Toyoda et al.), and further in view of U.S. Patent No. 6,603,928 (Hirai et al.). Applicants respectfully submit that the claims are patentable over the rejecting references taken separately or in any proper combination for at least the following reasons.

Independent Claim 1 requires a method for producing a composite digital image, including providing a plurality of partially overlapping source digital images having pixel values that are linearly or logarithmically related to scene intensity. The source digital images have overlap regions, and pixels of the source digital images correspond in scene content. The source digital images differ in scene content outside the overlap regions. The method also includes determining a focal length used in a capture of the source digital images from one or more sets of corresponding pixel values of the source digital images in the overlap regions. The determining step includes optimizing an error measure that includes two radial functions. Each of the two radial functions corresponding to a different source digital image. Also, the error measure is a function of the one or more sets of corresponding pixel values. The method further includes computing from the determined focal length, a radial exposure transform to compensate for exposure fall off as a function of the distance of a pixel from the center of the digital image. In addition, the method includes modifying the source digital images by applying the radial exposure transform to one or more of the source digital images to produce adjusted source digital images; and combining the adjusted source digital images to form a composite digital image by blending said overlap regions.

A notable feature of Claim 1 is the step of determining a focal length used in a capture of the source digital images from one or more sets of corresponding pixel values of the source digital images in said overlap regions, wherein said determining step comprises optimizing an error measure that includes two radial functions, each of the two radial functions corresponding to a different source digital image, and wherein the error measure is a function of the one or more sets of corresponding pixel values. This feature is believed to describe aspects of the equation for  $g(f)$  in allowed claims 18 and 21 not present in the rejecting references. In particular, the Office Action cites col. 15, line 65 to

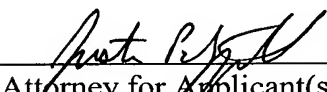
col. 16, line 62; col. 20, line 41 - col. 25, line 34; and figure 1:110 of the Szeliski et al. Patent as allegedly teaching optimizing an error function. However, the Szeliski et al. Patent is not understood to teach or suggest the newly amended determining step of Claim 1 that recites an error measure than includes the two radial functions now required by Claim 1. None of the other rejecting references are cited as teaching or suggesting the determining step of Claim 1. Accordingly, for at least the above discussed reasons, Applicants respectfully submit that Claim 1 is patentable.

Rejected independent Claims 19 and 25 include the same or similar features as that discussed above in connection with Claim 1 and, therefore, are submitted to be patentable for at least the same reasons.

The other claims in this application depend from one of the independent claims discussed above and, therefore, also are submitted to be patentable for at least the same reasons. Since each dependent claim is deemed to define an additional aspect of the invention, individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and the allowance of the present application.

Respectfully submitted,

  
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